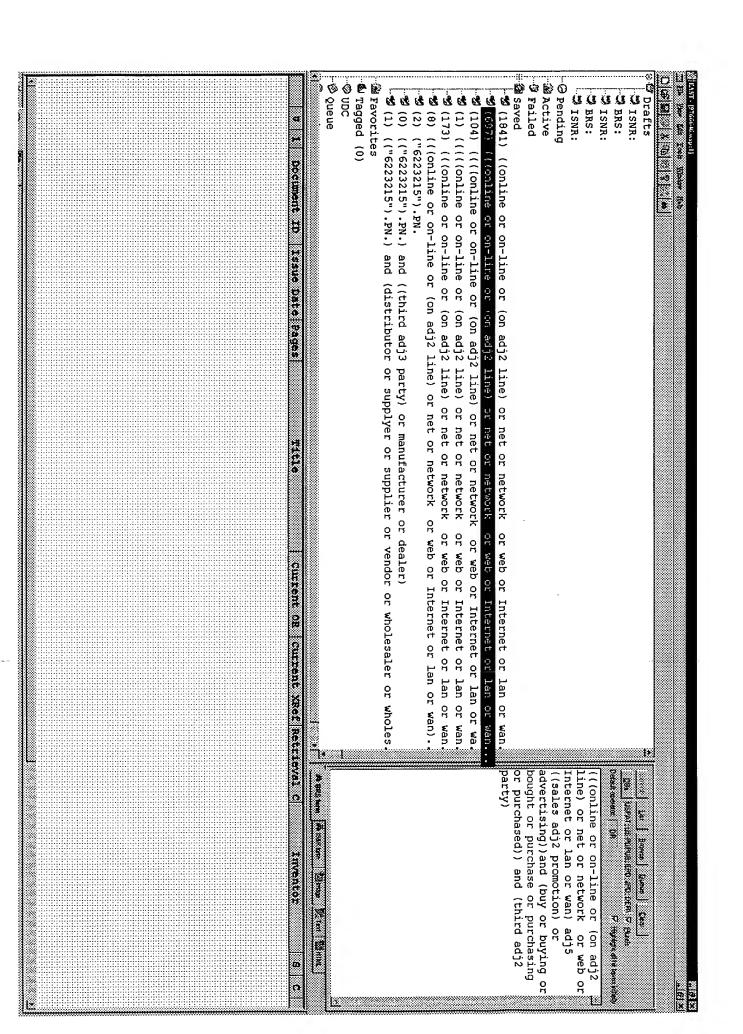
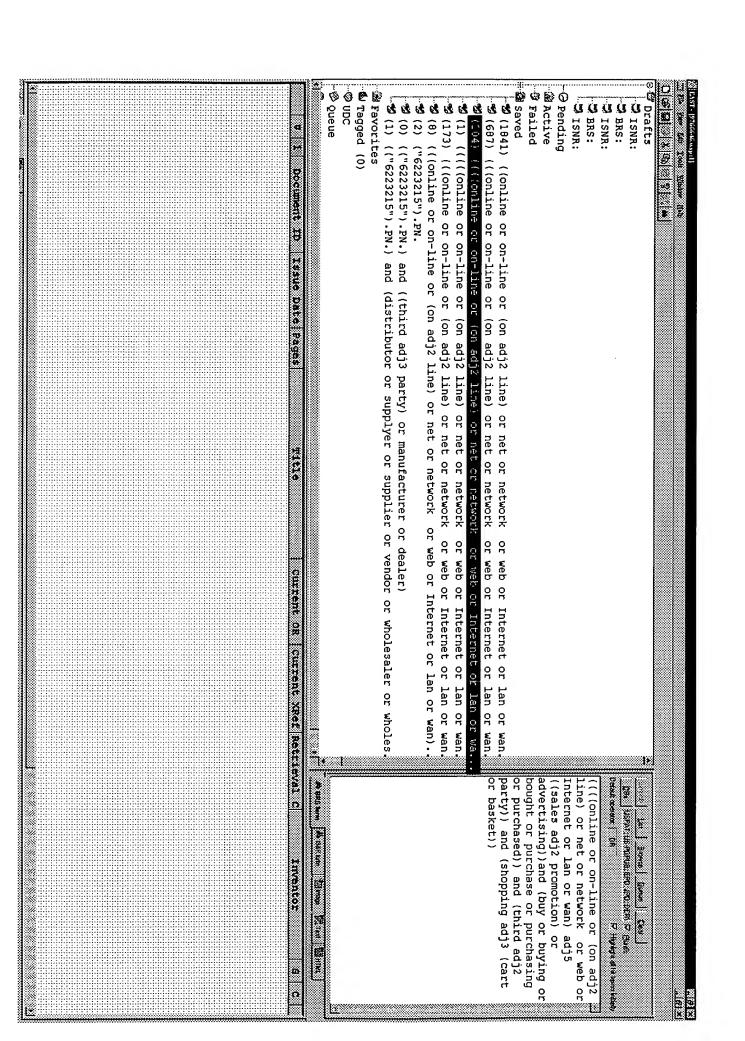
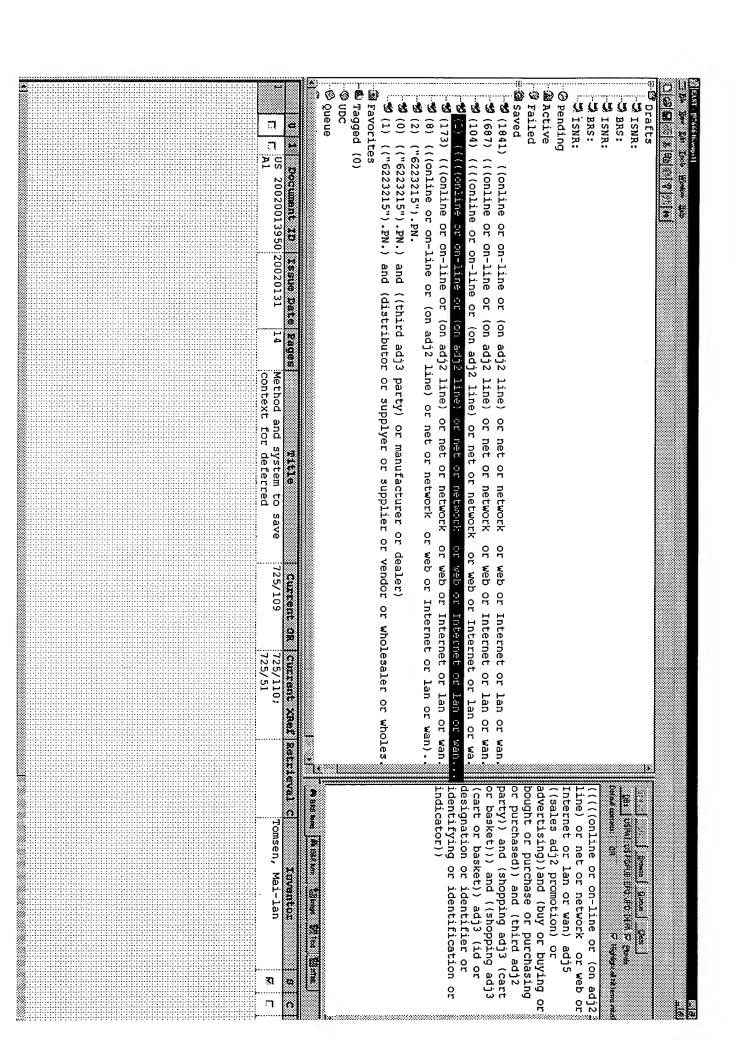
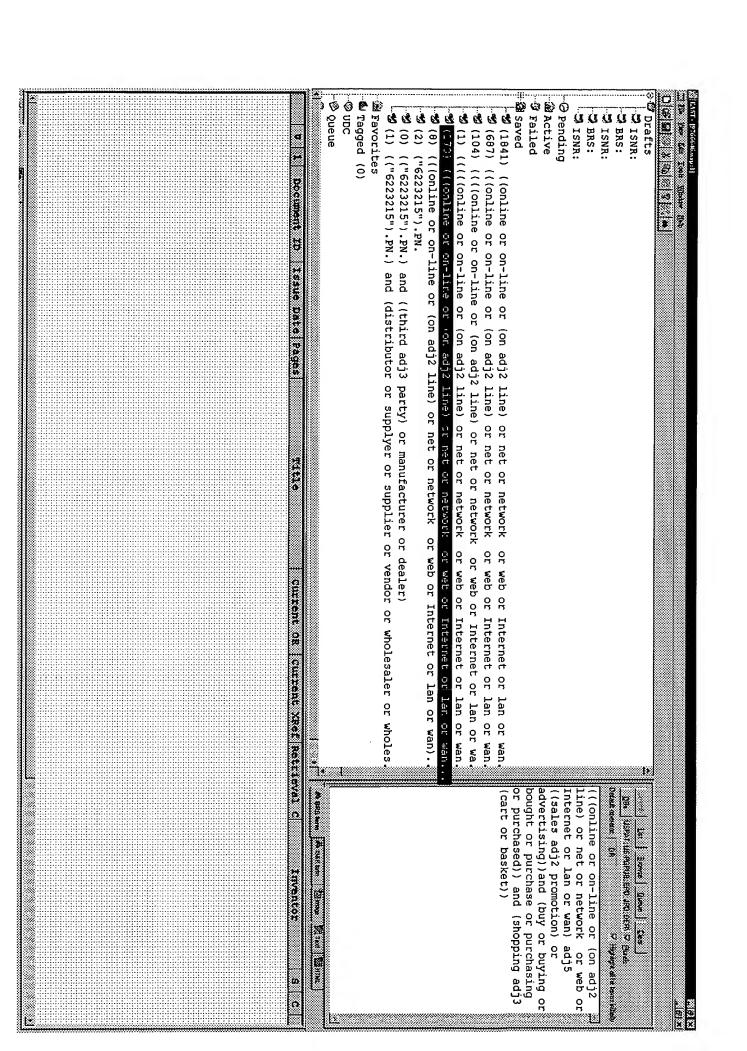
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Saved ∵® Queue • 🐿 Tagged (0) - @ Pending ⊕ UDC Tavorites APR separate soft apr sea of the season of t Fire Open Britis S ISNR:  $^{-2}$  (1) (("6223215").PN.) and (distributor or supplyer or supplier or vendor or wholesaler or wholes 1841) ((online or on-line or (on adj2 line) or net or network or web or internet or lan or wan (104) (((online or on-line or (on adj2 line) or net or network or web or internet or lan or wan (104) (((online or on-line or (on adj2 line) or net or network or web or internet or lan or wan (173) (((online or on-line or (on adj2 line) or net or network or web or internet or lan or wan (173) (((online or on-line or (on adj2 line) or net or network or web or internet or lan or wan (173) (((online or on-line or (on adj2 line) or net or network or web or internet or lan or wan (173) (((online or on-line or (on adj2 line) or net or network or web or internet or lan or wan (173)) BRS: BRS: 💋 (0) (("6223215").PN.) and ((third adj3 party) or manufacturer or dealer) 💋 (8) (((online or on-line or (on adj2 line) or net or network or web or Internet or lan or wan). U ISNR: Drafts ("6223215").PN. Document ID DB1 USANT. US ADAG EAD JAD DATH IN PUBL List Browned Gunes | Com 7-20-2004 n 

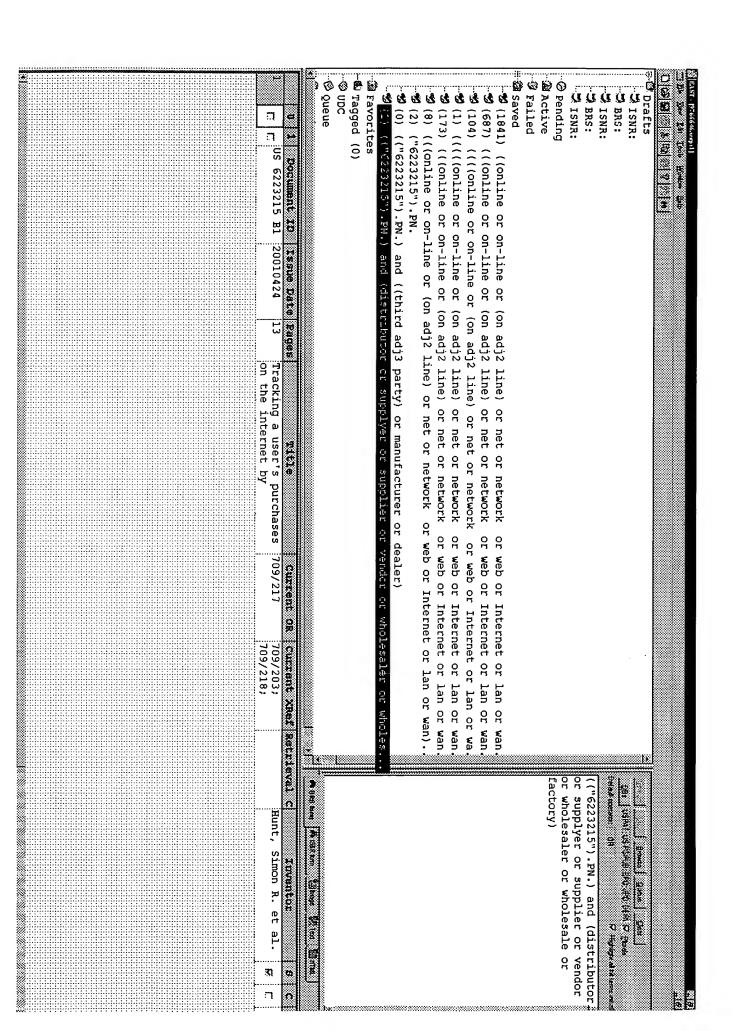








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US-PAT-NO:

6223215

DOCUMENT-IDENTIFIER: US 6223215 B1

TITLE:

Tracking a user's purchases

on the internet by

associating the user with an

inbound source and a session

identifier

DATE-ISSUED:

April 24, 2001

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02

APPL-NO:

09/ 158327

DATE FILED: September 22, 1998

INT-CL:

[07] G06F015/16

US-CL-ISSUED: 709/217, 709/203 , 709/218 ,

709/224 , 709/245 , 707/501

US-CL-CURRENT: 709/217, 709/203 , 709/218 ,

709/224 , 709/245 , 715/501.1

FIELD-OF-SEARCH: 705/10; 705/26; 705/27; 705/1; 705/56; 709/218; 709/217; 709/203; 709/224; 709/245

REF-CITED:

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PAT-NO ISSUE-DATE

PATENTEE-NAME US-CL

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5724424 March 1998 **Gifford** 

705/26 N/A N/A

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ART-UNIT: 215

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ATTY-AGENT-FIRM: Butt; Richard H. Fujii; Harold

Τ.

#### ABSTRACT:

In one embodiment, a method for interactive network session tracking from inbound source to net sale includes storing a unique session ID (identifier) in an entry in a session database, and associating the session ID with an inbound source (origin) of the user of an interactive network site. The user's actions, such as page views, product detail views, and shopping cart additions and deletions, can also be stored in the session database associated with the session ID. The unique session ID is embedded in a digital offer that is stored in a transaction database such that net sale data is associated with the session ID. Reporting and correlation of transaction data and the user activity data can be performed offline for analysis of purchase and traffic patterns.

25 Claims, 10 Drawing figures

Exemplary Claim Number: 1

Number of Drawing Sheets: 6

US-PAT-NO:

6223215

DOCUMENT-IDENTIFIER:

US 6223215 B1

TITLE:

Tracking a user's purchases

on the internet by

associating the user with an

inbound source and a session

identifier

----- KWIC -----

Abstract Text - ABTX (1):

In one embodiment, a method for interactive network session tracking from inbound source to net sale includes storing a unique session ID (identifier) in an entry in a session database, and associating the session ID with an inbound source (origin) of the user of an interactive network site. The user's actions, such as page views, product detail views, and shopping cart additions and deletions, can also be stored in the session database associated with the session ID. The unique session ID is embedded in a digital offer that is stored in a transaction database such that net sale data is associated with the session ID. Reporting and correlation of transaction data and the user activity data can be performed offline for analysis of purchase and traffic patterns.

TITLE - TI (1):

Tracking a user's <u>purchases</u> on the internet by associating the user with an inbound source and a session identifier

# Brief Summary Text - BSTX (7):

As the revenue generated from E-commerce and advertising on interactive networks, such as the WWW, continues to increase, interactive network session tracking of origin-through-sales series of actions is needed. For example, an origin-through-sales series of actions includes a customer's (e.g., a WWW user of an online store) origin, such as a unique source ID (identifier) of a banner (advertisement) on a search engine WWW site (e.g., using standard name-value pairs passed via HTTP protocol). The origin-through-sales series of actions can also include the customer's browsing path through an interactive network site, such as a WWW online store site, and optionally the amount of time spent by the customer at the network site. origin-through-sales series of actions further includes the customer's net sales information, such as goods or services purchased through the online store.

# Brief Summary Text - BSTX (9):

In a traditional WWW site using static HTML (HyperText Markup Language) pages, session tracking can be performed through analysis of WWW server logs using commercially available tools. However, the commercially available tools cannot perform session tracking in a dynamically generated WWW site in which the contents of the site exist as sets of data in a

database rather than as static HTML pages, such as an online store that maintains an online catalog in a database. Moreover, the commercially available tools cannot perform session tracking in a WWW site that provides a (secure) purchase subsystem (e.g., using SSL protocol instead of HTTP protocol), because the desired information is encrypted.

Brief Summary Text - BSTX (10):

Accordingly, the present invention provides interactive network session tracking from inbound source to net sale. In one embodiment, a method includes storing a unique session ID in an entry in a session tracking database, and associating the session ID with a user's browser, such as via a transient HTTP (HyperText Transfer Protocol) cookie. The user's origin, such as a unique source ID of a banner (advertisement) on a search engine WWW site (e.g., using standard name-value pairs passed via HTTP protocol), is stored in the session database associated with the session ID. The user's actions, such as page views, product detail views, and additions and deletions of items in a virtual shopping cart, can also be stored in the cession database associated with the session ID. Further, the session ID is embedded in a field of a transaction database of a (secure) purchase subsystem. example, the purchase subsystem can be implemented using the commercially available Open Market TRANSACT database. The Open Market TRANSACT database maintains the net sales data

associated with the session ID. Thus, the net sales data can subsequently be extracted using the session ID as a key. Reporting and correlation of user action data stored in the session database and net sales data stored in the transaction database can be performed offline to analyze sale transaction patterns and traffic patterns.

Brief Summary Text - BSTX (11):

A "seam" between the catalog (presentation) subsystem and the purchase subsystem represents another problem with secure transactions over interactive networks, such as the WWW. For example, the catalog subsystem includes a shopping cart database that maintains the session ID, all items added in the shopping cart associated with the session ID, and in-stock status for each added item (e.g., back-ordered items can be determined using the value of the in-stock status). If the user decides to purchase the items in the shopping cart, the shopping cart data is passed to the purchase subsystem. However, if the user subsequently decides to return to the catalog subsystem, the shopping cart data stored in the shopping cart database of the catalog subsystem may not be consistent (may be out of sync) with the shopping cart data of the transaction database. For example, the user may have deleted items from the shopping cart while interacting with the purchase subsystem.

Brief Summary Text - BSTX (12):

Accordingly, in one embodiment, the seam between the catalog subsystem and the purchase subsystem is eliminated. The shopping cart database of the catalog subsystem is updated to reflect any shopping cart modifications performed by the user while interacting with the purchase subsystem. As a result, the shopping carts of the purchase subsystem and the catalog subsystem Thus, if a user are effectively synchronized. returns to the catalog subsystem from the purchase subsystem, the shopping cart database provides the appropriate shopping cart data associated with the user's unique session ID.

Detailed Description Text - DETX (9):

At stage 222, whether the user desires to have the contents of the user's shopping cart displayed is determined. example, the user may want to view the currently added items in the user's shopping cart. If so, operation proceeds to stage 224. Otherwise, operation proceeds to stage 228. At stage 224, the shopping cart database is queried for items associated with the user's session ID. Stage 224 is further discussed below with respect to FIG. 6. At stage 226, the selected items and associated in-stock status are displayed to the user. For example, the user's selected items for purchase are output to the user's display.

Detailed Description Text - DETX (10):

At stage 228, whether the user is ready to purchase the currently selected

items is determined. If so, operation proceeds to stage 230 and transitions to a (secure) purchase subsystem (e.g., a purchase subsystem that communicates via the Internet using an encrypted protocol to protect sensitive financial data). Otherwise, operation returns to stage 204. particular, as shown by the horizontal dashed line of FIG. 2, if the user elects to proceed to purchases of the selected items in the user's shopping cart, then operation transitions across a seam between a first subsystem and a second subsystem of the network site (e.g., a WWW server). In one embodiment, the first subsystem is a catalog subsystem, which uses standard HTTP protocol, and the second subsystem is a secure purchase subsystem, which uses standard SSL (Secure Sockets Layer) protocol (i.e., an encrypted protocol for security purposes). The architecture of a system for implementing the teachings of the present invention is further described below with respect to FIG. 10.

Detailed Description Text - DETX (12):

At stage 232, the digital offer is injected into a transaction database, such as the commercially available Open Market TRANSACT database. Thus, the user's shopping cart data is also maintained in the transaction database of the purchase subsystem and is associated with the user's unique session ID. Stage 232 is further discussed below with respect to FIG. 8.

Detailed Description Text - DETX (13):

The user can modify items in the user's shopping cart after entering into the purchase subsystem. For example, the user may decide to delete an item from the user's shopping cart. Accordingly, at stage 234, the shopping cart data associated with the session ID that is stored in the Open Market TRANSACT database is extracted from all TRANSACT order-related actions and the shopping cart database is appropriately updated. Accordingly, the shopping cart database of the catalog subsystem is synchronized with the shopping cart data stored in the transaction database of the purchase subsystem. Stage 234 is further discussed below with respect to FIG. 9. the user executes any further interactions with the user interface of the WWW online store site, then operation returns to stage 204. Otherwise, (i.e., the user exits the browser session) operation terminates.

Detailed Description Text - DETX (18): FIG. 7 is a flow diagram of stage 230 of FIG. 2 shown in greater detail in accordance with one embodiment of the present invention. At stage 702, a query of the shopping cart database is executed using the session ID and optionally the in-stock indicator as the keys to return items in the user's shopping cart. At stage 704, using the returned model identifier information, a series of digital offers is built in the standard Open Market TRANSACT 3 format. For example, the specification of the Open Market TRANSACT API (Application Program Interface) includes a field called the Unique ID

field, which is also referred to as the Domain field. The session ID is embedded in the Domain field, which allows cross-application interaction and, in particular, allows for online or offline correlation of user action data across the seam between the catalog subsystem and the purchase subsystem. For example, the association of the digital offer data with the unique session ID will allow a separately developed reporting tool to correlate details of a sale with the inbound source, user action at the network site, and net sale data. Domain field can also contain other application-specific information.

Detailed Description Text - DETX (20):

FIG. 9 is a flow diagram of stage 234 of FIG. 2 shown in greater detail in accordance with one embodiment of the present invention. At stage 902, the session ID, which is embedded in the Domain field, is used as the primary key to shopping cart data stored in the Open Market TRANSACT database. At stage 904, the front-end shopping cart database is modified (updated) to accurately reflect the contents as portrayed in the Open Market shopping cart or order form as stored in the Open Market TRANSACT database. In one embodiment, an Oracle database trigger updating the front-end shopping cart database is implemented to react to changes made in real time to the Open Market TRANSACT database. In another embodiment, real-time monitoring of the user's interactions with Open Market TRANSACT is provided using a customized function

implemented using the Open Market TRANSACT screen customization. Accordingly, the front-end shopping cart database is synchronized with the Open Market TRANSACT database. Moreover, a user can advantageously freely navigate between the Open Market TRANSACT ordering form of the purchase subsystem and a catalog user interface of the catalog subsystem.

Detailed Description Text - DETX (21): FIG. 10 is a block diagram of the architecture of a system for interactive network session tracking from inbound source to net sale in accordance with one embodiment of the present invention. In particular, FIG. 10 shows a catalog subsystem 1002 and a purchase subsystem 1012 stored in memory 140 (of FIG. 1). Catalog subsystem 1002 includes a front-end session database 1004 for tracking a user's actions on an interactive network site, such as a WWW online store site. For example, session database 1004 stores an entry 1006 that includes a unique session ID, an origin, and any user actions, as discussed above. Catalog subsystem 1002 also includes a front-end shopping cart database 1008 for maintaining the current contents of the user's shopping cart and associating the shopping cart with the session ID. For example, shopping cart database 1008 stores an entry 1010 that includes the session ID, added items, and in-stock status, as discussed above. Purchase subsystem 1012 includes a transaction database 1014 for storing digital offers and associating the digital offers with the session ID. For example,

transaction database 1014 stores an entry 1016 that includes the session ID and a digital offer.

Detailed Description Text - DETX (23):

As shown in FIG. 10, catalog subsystem 1002 is in data communication with client computer 180 via the Internet 1018 using the standard HTTP protocol over a communication link 1020 and a communication link 1026. Purchase subsystem 1012 is in data communication with client computer 180 via the Internet 1018 using the standard SSL protocol over a communication link 1022 and a communication link 1028. Catalog subsystem 1002 is in data communication with purchase subsystem 1012 via an API 1024 using programmatic calls, as discussed above.

### Claims Text - CLTX (9):

4. The process of claim 2 wherein the inbound source information is stored in a session database of a catalog subsystem, the user activity is stored in the session database of the catalog subsystem, and the net sale information is stored in a transaction database of a purchase subsystem, and wherein the purchase subsystem is in data communication with a network via an encrypted protocol.

### Claims Text - CLTX (14):

7. The process of claim 4 wherein the catalog subsystem is in data communication with a second computer via an

Internet using a HyperText Transfer
Protocol, the <u>purchase</u> subsystem is in data
communication with the second
computer via the Internet using a Secure Sockets
Layer protocol, and the
catalog subsystem is in data communication with the
<u>purchase</u> subsystem via an
Application Program Interface using programmatic
calls.

#### Claims Text - CLTX (17):

a transaction database of a <u>purchase</u> subsystem operatively connected to the session database, the transaction database being configured to store a net sale information of the net sale executed by the user, the net sale information being associated with the session identifier, the transaction database further being configured to process a universal resource locator (URL) having a checksum that includes the session identifier, wherein the <u>purchase</u> subsystem is in data communication with a network using an encrypted protocol.

## Claims Text - CLTX (21):

a shopping cart database of the catalog subsystem, the shopping cart database being configured to store an item selected for **purchase** by the user.

# Claims Text - CLTX (32):

a <u>purchase</u> subsystem of the network site executed on the microprocessor, wherein the <u>purchase</u> subsystem comprises a transaction database that stores a digital offer associated with the session

identifier,

Claims Text - CLTX (33):

wherein the <u>purchase</u> subsystem communicates with a network using an encrypted protocol.

Claims Text - CLTX (38):

20. The machine of claim 19 wherein the catalog subsystem interacts with a client computer via the Internet using a HyperText Transfer Protocol, and the <a href="mailto:purchase">purchase</a> subsystem interacts with the client computer via the Internet using a Secure Sockets Layer protocol.

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